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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,314	06/27/2001	Phillip B. Blankenship	M7285.021	2106
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Molly D McKay, P.C. 2301 S Sheridan-Suite A Tulsa, OK 74129			EXAMINER FLETCHER III, WILLIAM P	
			ART UNIT 1792	PAPER NUMBER
			MAIL DATE 01/29/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

09/893,314

Applicant(s)

BLANKENSHIP ET AL.

Examiner

William P. Fletcher III

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 37-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-40 and 42-59 is/are rejected.
- 7) ☒ Claim(s) 41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948).
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 14, 2008, has been entered.

### ***Response to Amendment***

2. Claims 37-59 remain pending.
3. It is the Examiner's position that the amendments to the claims are not fully supported by the originally filed disclosure. See below.

### ***Response to Arguments***

4. Applicant's arguments, see the remarks, filed January 14, 2008, with respect to the rejection(s) set forth in the prior Office action, have been fully considered and are persuasive. It is clear that Helf in fact teaches away from hard aggregate and neither teaches nor suggests amounts greater than about 15 wt.-%. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Collins et al. (US 6,074,469 A).

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 37-59 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

A. Concerning the independent claims, as noted in the prior Office action, the term "aggregate" is nowhere explicitly defined, nor does the term "hard aggregate" appear at all. While paragraph 0035 describes the aggregate as inclusive of "crushed and rounded sands," this by no means supports that *any and all* types of aggregate encompassed by the term "hard aggregate."

B. Further, the limitation "in an amount greater than about 15% by weight" is inclusive of aggregate amounts from about 15% by weight up to 100% by weight. The specification, on the contrary, discloses aggregate amounts only up to about 60% by weight. As such, the originally filed disclosure lacks support for the hard aggregate amounts between about 60% by weight and 100% by weight, encompassed by this limitation.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 37-59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. Again concerning the independent claims, which recite "by weight," this limitation renders the claims indefinite as it is unclear with respect to what the by weight measurement is taken: is it with respect to the total asphalt composition? is it with respect to the total aggregate amount? As such, the metes and bounds of the claim are impossible to determine.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 37-39, 42-45, and 50-59, are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. (US 6,074,469 A, newly cited) in view of Helf (US 6,248,396 B1, previously cited) and Harvey et al. (*Fatigue Resistance...*, Oct. 1995, previously cited).

A. Claim 37:

i. Collins teaches a process for making an asphalt mixture for paving a roadway. The asphalt mixture comprises a polymer-modified binder and a hard aggregate. See 2:30-4:25.

ii. While this reference does not teach hard aggregate in an amount greater than about 15% by weight, it is the Examiner's position that the amount of aggregate in an asphalt paving mixture is a result-effective variable that determines properties of the roadway including, but not limited to, flexibility and durability. See 4:45-5:5. Consequently, it would have been obvious to one skilled in the art to optimize the amount of aggregate in the asphalt mixture by routine experimentation, absent evidence of criticality. See MPEP 3144.05.

iii. Further, the Examiner notes that this claim does not actually require that the asphalt mixture be applied as an interlayer. It is the Examiner's position that the recitation of "interlayer" in this claim amounts to more than a mere statement of intended use, since the stability and fatigue tests are performed in light of this end use, but does not rise to the level of expressly requiring the asphalt mixture to be applied as an interlayer. Consequently, the Examiner interprets this claim as requiring the asphalt mixture be *capable* of use as an interlayer.

Since Collins broadly teaches a flexible asphalt paving mixture [see 2:30 ff. and 5:top], it is the Examiner's position that Collins' mixture is

suitable for and capable of use in any known flexible asphalt paving application. As noted in the prior Office actions, Helf demonstrates that it is known to apply a flexible asphalt layer as a stress absorbing interlayer. See 8:54 ff. Consequently, it is the Examiner's position that, in view of Helf and based upon its flexibility, the asphalt mixture of Collins is *capable* of serving as a stress absorbing interlayer, absent evidence to the contrary.

iv. Finally, while Collins clearly teaches that the flexibility of the asphalt mixture is of concern in the invention [5:top], and while it has been established on the record that stability and fatigue testing is known in the art, Collins does not explicitly state that stability and fatigue tests are performed on the asphalt mixture and that said tests are used to select an appropriate asphalt mixture.

Harvey teaches that both stability and fatigue testing — in particular, the Hveem Stability Test (HST) and the Flexural Beam Stability Test (FBST) — are known in the art as tests performed during asphalt mix design and describes the role of these tests in the process of formulating and selecting an asphalt mixture suitable for a given application. See xvi:12-17; 1:3-5 and 8-9; 2:9-12, 17, 18, and footnote; 3:1-2, 13-15, 17-18, and 23-4:1; 8:1-4; 18:1-2, 4-6, and 9-11; 54:17-55:1; 76:22-77:2; 77:9-12; 78:7-9 and 12-14. Consequently, it would have been obvious to one skilled in the art to modify the process of Collins so as to utilize stability and fatigue testing — in particular HST and FBST — as part of the mix

design to determine the best formulation suitable for the given asphalt application.

B. Claims 38, 39, 42-44, 53, and 55-59:

i. It is clear that the results of the tests that are deemed suitable depend upon the desired environment and application. For a given environment and application, it would have been obvious to optimize the proportions of asphalt constituents to achieve the desired durability, etc. Consequently, it would have been obvious to one skilled in the art to optimize the asphalt mixture by routine experimentation, absent evidence of criticality. See MPEP 2144.05.

ii. Further, Harvey teaches many of the claimed measurements as part of the mix design process. It is the Examiner's position that such measurements are common and well-known in asphalt mix design.

C. Claim 45:

i. Collins, Helf, and Harvey are applied herein again as above.

ii. Collins does not expressly teach that the asphalt mixture is applied as an interlayer and that an overlayer is applied thereto.

iii. As noted above, Helf teaches a flexible asphalt mixture applied as a stress reducing interlayer that is over-coated with an over-layer. Helf further teaches that such a flexible interlayer prevents crack propagation in a road resurfacing application.



iv. Consequently, based on what the teachings of these references, taken as a whole, would have suggested to one skilled in the art, it would have been obvious to one skilled in the art to apply the asphalt mixture of Collins as an interlayer, subsequently over-coated with an over-layer. One skilled in the art would have been motivated to do so by the desire and expectation of preventing the propagation of cracks from an underlying surface, as taught by Helf.

v. Finally, it is the Examiner's position that determining the thickness of the over-layer occupies an elementary level of inquiry in the art and would have been obvious to one skilled in the art so as to yield a layer that is suitable of its desired use and that can successfully support traffic thereon.

D. Claim 50:

i. While none of the cited references teach this feature, it is the Examiner's position that it is common in the art to drive over-layer application equipment atop the interlayer, which reads on the limitations of this claim.

E. Claims 51 and 52:

i. While none of the cited references teach these features, it is the Examiner's position that SB/SBS polymer modified hot mix asphalt over-layers are common in the art and it would have been obvious to one skilled in the art to apply such as the over-layer.

12. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Collins in view of Helf and Harvey, as applied to claim 37 above, further in view of Grubba (US 5,795,929 A, newly cited).

- A. Collins, Helf, and Harvey are applied as detailed above.
- B. None of these references teaches the claimed cross-linking agent.
- C. Grubba teaches that it is known in the art to add cross-linking agents such to impart desired properties to the asphalt mixture. See 1:52 ff.
- D. Consequently, it would have been obvious to one skilled in the art to modify the composition of Collins so as to add a cross-linking agent to achieve desired properties for the asphalt mixture.

13. Claim 46, 47, 49, and 54, are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins in view of Helf and Harvey, as applied to the claims above, further in view of Walter (US 3,907,582 A, previously cited).

- A. The combined teaching of Collins, Helf, and Harvey is detailed above.
- B. As noted previously in the record, Walter teaches cooling between layers and forming an overcoat with a thickness of 1 inch [4:41].
- C. It would have been obvious to one skilled in the art to modify Collins, Helf, and Harvey, so as to utilize such cooling and such a thickness. One of ordinary skill would have been motivated to do so by the desire and expectation of successfully providing a road overlay.

14. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Collins in view of Helf and Harvey, as applied to claim 45 above, further in view of McDonald (US 3,891,585 A, previously cited).

A. The combined teaching of Collins, Helf, and Harvey, is detailed above.

B. None of these references teaches sweeping the roadway and sealing cracks prior to applying the interlayer.

C. As noted previously on the record, McDonald teaches sweeping the roadway and sealing the cracks prior to forming an asphalt/polymer layer thereon [9:18-41]. This is done so that underlying fatigue cracking is not reflected in the new layer.

D. Consequently, it would have been obvious to one skilled in the art to modify Collins, Helf, and Harvey, so as to sweep the roadway and seal the cracks. In so doing, underlying fatigue cracks are not reflected in the new layer.

***Allowable Subject Matter***

15. Claim 41 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: Collins teaches that high shear blending is critical to the invention and, as such, teaches away from low shear blending.

***Conclusion***

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17. The prompt development of clear issues in the prosecution history requires that applicant's reply to this Office action be fully responsive (MPEP § 714.02). When filing an amendment, applicant should specifically point out the support for any amendment made to the disclosure, including new or amended claims (MPEP §§ 714.02 & 2163). A fully responsive reply to this Office action, if it includes new or amended claims, must therefore include an explicit citation (i.e., page number and line number) of that/those portion(s) of the original disclosure which applicant contends support(s) the new or amended limitation(s).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Fletcher III whose telephone number is (571) 272-1419. The examiner can normally be reached on Monday through Friday, 0900h-1700h.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/William Phillip Fletcher III/**  
Primary Examiner

January 27, 2008